canvas - Bug #17155

Segfault when reading ROOT file in limited environment lacking some data product libraries.

07/11/2017 02:22 PM - Brett Viren

Status:	Closed	**Start date:**	07/11/2017
Priority:	Normal	**Due date:**	
Assignee:	Kyle Knoepfel	**% Done:**	100%
Category:		**Estimated time:**	2.00 hours
Target version:	2.08.00	**Spent time:**	1.00 hour
Scope:	Internal	**SSI Package:**	art
Experiment:	-		

Description

As originally reported on the larsoft mailing list I came across a segfault if loading a MicroBooNE file from production process in an environment only set up for larsoft (v06_42_00) and art (v2_07_03). This was done on Ubuntu 16.04 in a dev environment but with art and other UPS products as binaries built at FNAL.

To reproduce the problem one needs only a .fcl file like:

```
source :{
    module_type: RootInput
    maxEvents: 1
}
```

and the ROOT file. I don't know how to best provide this but the file I used is named:

```
PhysicsRun-2016_4_16_16_4_43-0005937-00029_20160417T025948_ext_unbiased_20160417T043249_merged_201
60428T225457_reco1_20160429T060831_reco2_20170622T153953_reco1_20170622T164220_reco2.root
```

I give below the session output and a stack trace from GDB.

The help from Kyle on the mailing list successfully let me avoid this problem either by setting:

```
    inputCommands: ["drop raw::ubdaqSoftwareTriggerData_*_*_*"]
```

or

```
    inputCommands: ["drop *", "keep raw::RawDigits_*_*_*"]
```

in the RootInput FHiCL table.

```
$ gdb --args lar -c ../srcs/larwirecell/larwirecell/LArInterface/read-one.fcl  -s /opt/bviren/wcls
/data/PhysicsRun-2016_4_16_16_4_43-0005937-00029_20160417T025948_ext_unbiased_20160417T043249_merg
ed_20160428T225457_reco1_20160429T060831_reco2_20170622T153953_reco1_20170622T164220_reco2.root
GNU gdb (GDB) 7.12
Copyright (C) 2016 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.  Type "show copying"
and "show warranty" for details.
This GDB was configured as "x86_64-pc-linux-gnu".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from lar...done.
(gdb) r
```

```
Starting program: /opt/fnal/products/art/v2_07_03/u16.x86_64.e14.nu.prof/bin/lar -c ../srcs/larwir
ecell/larwirecell/LArInterface/read-one.fcl -s /opt/bviren/wcls/data/PhysicsRun-2016_4_16_16_4_43-
0005937-00029_20160417T025948_ext_unbiased_20160417T043249_merged_20160428T225457_reco1_20160429T0
60831_reco2_20170622T153953_reco1_20170622T164220_reco2.root
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".
INFO: using default process_name, "DUMMY."
%MSG-i MF_INIT_OK:  Early 11-Jul-2017 12:31:30 EDT JobSetup
Messagelogger initialization complete.
%MSG
11-Jul-2017 12:31:31 EDT  Initiating request to open input file "/opt/bviren/wcls/data/PhysicsRun-
2016_4_16_16_4_43-0005937-00029_20160417T025948_ext_unbiased_20160417T043249_merged_20160428T22545
7_reco1_20160429T060831_reco2_20170622T153953_reco1_20170622T164220_reco2.root"
%MSG-i Root_Information:  Early TClass::Init() 11-Jul-2017 12:31:32 EDT JobSetup
no dictionary for class art::Wrapper<raw::ubdaqSoftwareTriggerData> is available
%MSG
%MSG-i Root_Information:  Early TClass::Init() 11-Jul-2017 12:31:32 EDT JobSetup
no dictionary for class raw::ubdaqSoftwareTriggerData is available
%MSG
11-Jul-2017 12:31:32 EDT  Opened input file "/opt/bviren/wcls/data/PhysicsRun-2016_4_16_16_4_43-00
05937-00029_20160417T025948_ext_unbiased_20160417T043249_merged_20160428T225457_reco1_20160429T060
831_reco2_20170622T153953_reco1_20170622T164220_reco2.root"

Program received signal SIGSEGV, Segmentation fault.
0x00007ffff5ab99be in TCollection::begin() const ()
   from /home/bviren/dev/wcls/products/root/v6_08_06g/Linux64bit+4.4-2.23-e14-nu-prof/lib/libCore.
so
(gdb) where
#0  0x00007ffff5ab99be in TCollection::begin() const ()
   from /home/bviren/dev/wcls/products/root/v6_08_06g/Linux64bit+4.4-2.23-e14-nu-prof/lib/libCore.
so
#1  0x00007ffff18e0c02 in art::DictionaryChecker::checkDictionaries (this=this@entry=0x7fffffff072
0, name_orig=..., recursive=<optimized out>,
   level=level@entry=0) at /home/vagrant/build/prof/build/canvas/v2_00_02/src/canvas/Persistency/
Provenance/DictionaryChecker.cc:445
#2  0x00007ffff228d707 in art::MasterProductRegistry::checkDicts_ (this=this@entry=0x7fffffff0590,
 productDesc=...)
   at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Persistency/Provenance/MasterProductReg
istry.cc:429
#3  0x00007ffff2292589 in art::MasterProductRegistry::initFromFirstPrimaryFile (this=0x7fffffff059
0, pl=..., presList=..., fb=...)
   at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Persistency/Provenance/MasterProductReg
istry.cc:239
#4  0x00007ffff51576ee in art::RootInputFileSequence::initFile (this=this@entry=0x3992580, skipBad
Files=<optimized out>,
   initMPR=initMPR@entry=true) at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/I
O/Root/RootInputFileSequence.cc:367
#5  0x00007ffff5159d3b in art::RootInputFileSequence::RootInputFileSequence (this=0x3992580, confi
g=..., catalog=..., fcip=...,
   pMode=<optimized out>, mpr=..., processConfig=...)
   at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/IO/Root/RootInputFileSequence
.cc:154
#6  0x00007fffe19d5ec1 in std::make_unique<art::RootInputFileSequence, fhicl::TableFragment<art::R
ootInputFileSequence::Config> const&, art::InputFileCatalog&, art::FastCloningInfoProvider, art::I
nputSource::ProcessingMode, art::MasterProductRegistry&, art::ProcessConfiguration const&>(fhicl::
TableFragment<art::RootInputFileSequence::Config> const&, art::InputFileCatalog&, art::FastCloning
InfoProvider&&, art::InputSource::ProcessingMode&&, art::MasterProductRegistry&, art::ProcessConfi
guration const&) ()
   at /home/vagrant/build/prof/build/gcc/v6_3_0/Linux64bit+4.4-2.23/include/c++/6.3.0/bits/unique
_ptr.h:791
#7  art::RootInput::RootInput (this=0x3992100, config=..., desc=...)
   at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/IO/Root/RootInput_source.cc:7
7
#8  0x00007fffe19e60f8 in std::make_unique<art::RootInput, fhicl::ParameterSet const&, art::InputS
ourceDescription&> (__args#0=...,
   __args#1=...) at /home/vagrant/build/prof/build/gcc/v6_3_0/Linux64bit+4.4-2.23/include/c++/6.3
.0/bits/unique_ptr.h:791
```

```
#9   0x00007fffe19d63e5 in make (ps=..., desc=...)
     at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/IO/Root/RootInput_source.cc:2
65
#10  0x00007ffff352ead7 in art::InputSourceFactory::make (conf=..., desc=...)
     at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/Core/InputSourceFactory.cc:44
#11  0x00007ffff3e06154 in (anonymous namespace)::makeInput (areg=..., preg=..., processName=..., p
arams=...)
     at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/EventProcessor/EventProcessor
.cc:85
#12  art::EventProcessor::EventProcessor (this=0x7fffffef0d0, pset=...)
     at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/EventProcessor/EventProcessor
.cc:137
#13  0x00007ffff7b8854f in art::run_art_common_ (main_pset=..., debug=...)
     at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/Art/run_art.cc:236
#14  0x00007ffff7b8a580 in art::run_art(int, char**, boost::program_options::options_description&,
cet::filepath_maker&, std::vector<std::unique_ptr<art::OptionsHandler, std::default_delete<art::Op
tionsHandler> >, std::allocator<std::unique_ptr<art::OptionsHandler, std::default_delete<art::Opti
onsHandler> > > >&&, art::detail::DebugOutput&&) (argc=argc@entry=5, argv=argv@entry=0x7fffffff149
8, in_desc=..., lookupPolicy=...,
     handlers=..., dbg=...) at /home/vagrant/build/prof/build/art/v2_07_03/src/art/Framework/Art/ru
n_art.cc:136
#15  0x00007ffff7b85d46 in artapp (argc=5, argv=0x7fffffff1498)
     at /home/vagrant/build/prof/build/art/v2_07_03/build-Linux64bit+4.4-2.23-e14-nu-prof/art/Frame
work/Art/artapp.cc:56
#16  0x000000000040130c in main (argc=<optimized out>, argv=<optimized out>)
     at /home/vagrant/build/prof/build/art/v2_07_03/build-Linux64bit+4.4-2.23-e14-nu-prof/art/Frame
work/Art/lar.cc:8
```

History

#1 - 07/17/2017 11:21 AM - Kyle Knoepfel

- Project changed from art to canvas

- Status changed from New to Accepted

- Assignee set to Kyle Knoepfel

- Estimated time set to 2.00 h

- SSI Package art added

#2 - 07/17/2017 11:21 AM - Kyle Knoepfel

- Status changed from Accepted to Assigned

#3 - 07/24/2017 02:38 PM - Kyle Knoepfel

- Target version set to 2.08.00

- % Done changed from 0 to 100

#4 - 07/31/2017 08:32 AM - Kyle Knoepfel

- Status changed from Assigned to Resolved

Fix implemented with commit [canvas:31454d4](#).

#5 - 08/02/2017 11:04 AM - Kyle Knoepfel

- Status changed from Resolved to Closed